

10/541787

JC20 Rec'd PCT/PTO 11 JUL 2005

Express Mail Certificate

I hereby confirm that I, Kevin D., McCarthy, have deposited this correspondence along with other documents with the U.S. Postal Service by express mail on July 11, 2005. The express mail label is no. ED 470128441 US

Kevin D. McCarthy
Kevin D. McCarthy
Date 7/11/05

Patent 0-05-111 - 15331/US/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Josef et al.
Serial no.: N/A
Filed: Herewith
Title: SOLUBLE FERTILIZER COMPOSITIONS COMPRISING
CALCIUM AND/OR MAGNESIUM PHOSPHATES
Examiner: N/A
Art Unit: N/A

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir/Madam:

Preliminary Amendment

This preliminary amendment is being submitted to present the claims in U.S. format instead of the European type format that can be found in the original submission. Applicant has not altered the scope or breadth of these claims. These claims start at page 2 of this document.

Respectfully submitted

K. D. McCarthy
Kevin D. McCarthy
Reg. No. 35,278

Roach, Brown, McCarthy & Gruber, P.C.
1620 Liberty Building - 420 Main Street
Buffalo, New York 14202

1. (Original) Fertilizer formulations comprising:

- I) a monobasic earth-alkali metal phosphate, chosen from among Calcium Phosphate (MCP) $\text{Ca}(\text{H}_2\text{PO}_4)_2$, Magnesium Phosphate (MMgP) $\text{Mg}(\text{H}_2\text{PO}_4)_2$, or mixtures thereof;
- II) an alkali metal phosphate (MALP) AH_2PO_4 ;
- III) Phosphoric Acid (PA) H_3PO_4 .

2. (Original) Fertilizer formulations according to claim 1, wherein the alkali metal phosphate MALP is Monopotassium Phosphate (MKP) KH_2PO_4 .

3. (Currently Amended) Fertilizer formulations according to claim 1 ~~or 2~~, wherein
a) the alkali metal phosphate MALP is in a molar ratio to PA that is at least the ratio corresponding to the double salt $\text{AH}_5(\text{PO}_4)_2$.

4. (Original) Fertilizer formulations according to claim 1, wherein the ratio $\text{A}_2\text{O}:\text{P}_2\text{O}_5$, wherein the P_2O_5 does not comprise that included in phosphate moieties of the earth-alkali metal phosphates, is from about 0.50 to about 0.80.

5. (Original) Fertilizer formulations according to claim 1, wherein the molar ratio CaO and/or MgO to $\text{P}_2\text{O}_5\text{T}$, wherein $\text{P}_2\text{O}_5\text{T}$ comprises the total amount included in the formulations, is from 1:4.5 to 1:15.1 if the earth-alkali metal is calcium, and from 1:3.3 to 1:7.5, if the earth-alkali metal is magnesium.

6. (Original) Fertilizer formulations according to claim 5, wherein the molar ratio CaO and/or MgO to $\text{P}_2\text{O}_5\text{T}$, wherein the $\text{P}_2\text{O}_5\text{T}$ comprises the total amount included in the formulations, is about 1:4.8 if the earth-alkali metal is calcium, and about 1:3.8, if the earth-alkali metal is magnesium.

7. (Currently Amended) Fertilizer compositions comprising:

- a monobasic earth-alkali metal phosphate, chosen from among Calcium Phosphate (MCP) $\text{Ca}(\text{H}_2\text{PO}_4)_2$, Magnesium Phosphate (MMgP) $\text{Mg}(\text{H}_2\text{PO}_4)_2$, or mixtures thereof, and an alkali metal double salt $\text{AH}_5(\text{PO}_4)_2$, wherein A = K, Na, or NH₄.

8. (Original) Fertilizer compositions according to claim 7, further comprising an alkali metal phosphate (MALP) AH_2PO_4 .

9. (Original) Fertilizer compositions according to claim 7, wherein the alkali metal double salt is $KH_5(PO_4)_2$.

10. (Original) Fertilizer compositions according to claim 8, wherein the alkali metal phosphate MALP is Monopotassium Phosphate (MKP) KH_2PO_4 .

11. (Currently Amended) Fertilizer compositions according to claim 7,~~8 or 9~~, wherein the molar ratio of CaO and/or MgO to P_2O_5T , wherein the P_2O_5T comprises the total amount included in the compositions, is from 1:4.5 to 1:15.1 if the earth-alkali metal is calcium, and from 1:3.3 to 1:7.5, if the earth-alkali metal is magnesium.

12. (Original) Fertilizer compositions according to claim 11, wherein the molar ratio CaO and/or MgO to P_2O_5T , wherein the P_2O_5T comprises the total amount included in the compositions, is about 1:4.8 if the earth-alkali metal is calcium, and is about 1:3.8, if the earth-alkali metal is magnesium.

13. (Original) Fertilizer compositions according to claim 11, wherein the molar ratio of MALP to $AH_5(PO_4)_2$ is from zero to 60%.

14. (Currently Amended) Process for the preparation of the fertilizer compositions of the invention, which comprises the steps of preparing a fertilizer formulation comprising: I) a monobasic earth-alkali metal phosphate, chosen from among Calcium Phosphate (MCP) $Ca(H_2PO_4)_2$, Magnesium Phosphate (MMgP) $Mg(H_2PO_4)_2$, or mixtures thereof; II) an alkali metal phosphate (MALP) AH_2PO_4 ; and III) Phosphoric Acid (PA) H_3PO_4 according to any one of claims 1 to 6; introducing said formulation into a drying oven of a material resistant to the components of said formulation

(particularly to the PA); and mechanically homogenizing said formulation while concurrently drying it by heating under a vacuum.